

# ISO/TR 13086-1:2011-09 (E)

## Gas cylinders - Guidance for design of composite cylinders - Part 1: Stress rupture of fibres and burst ratios related to test pressure

---

Contents	Page
Foreword .....	iv
Introduction .....	v
1 Scope .....	1
2 Normative reference .....	1
3 Terms and definitions .....	1
4 Factors of safety related to stress rupture .....	2
4.1 Stress ratio .....	2
4.2 Field experience and background .....	3
4.3 Stress rupture test programs .....	3
4.4 Stress rupture field experience .....	6
4.5 Other discussion .....	7
4.6 Summary .....	7
5 Factors of safety related to test pressure .....	8
5.1 General .....	8
5.2 Burst .....	8
5.3 Cyclic fatigue .....	8
5.4 Stress rupture reliability .....	9
5.5 Damage tolerance .....	9
5.6 Evaluation of burst ratios .....	10
5.7 Summary .....	12
6 Technical Report Summary .....	13
Annex A (informative) Verification of stress ratios using strain gauges .....	14
Bibliography .....	15